



U.S. Department of Energy
Office of Civilian Radioactive Waste Management

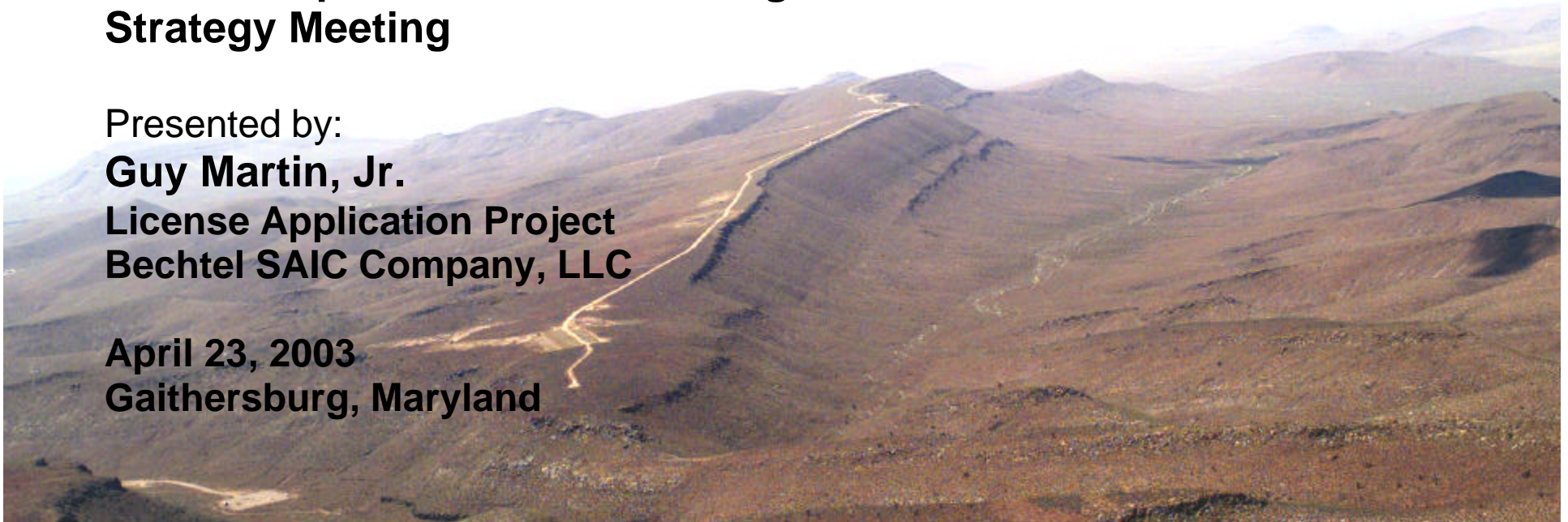


Planning for DOE Spent Nuclear Fuel Data Needs for Disposal

Presented to:
**National Spent Nuclear Fuel Program
Strategy Meeting**

Presented by:
Guy Martin, Jr.
License Application Project
Bechtel SAIC Company, LLC

April 23, 2003
Gaithersburg, Maryland



Outline

- **Data and Information Needs**
 - Preclosure Safety Analyses
 - Criticality Analyses
 - Total System Performance Assessment analyses
- **Data Quality**
 - Data supporting safety analyses must meet the requirements of OCRWM's *Quality Assurance Requirements and Description*



Preclosure Safety Analysis Data and Information Needs

- **Expected Packaging**
 - Description of waste container
 - Design characteristics (e.g., maximum drop height)
- **Physical and Chemical Characteristics**
 - Cladding characteristics and condition
 - Waste form condition
 - Fuel matrix composition
 - Presence of corrosion products
 - Chemical reactivity
- **Isotopic Inventory**
- **Estimated Maximum Throughput**



TSPA and Criticality Analysis Data and Information Needs

- **Description of Expected Packaging and Internal Configuration**
 - Geometry of internal components
 - Internal component materials
- **Waste Form Inventory**
 - volume
 - metric tons of heavy metals
 - isotopic inventory



TSPA and Criticality Analysis Data and Information Needs

- **Waste Form Physical Characteristics**
 - Fractured
 - Powdered
- **Waste Form Chemical Characteristics**
 - Radionuclide solubility
 - Dissolution rate
- **Waste Form Thermal Characteristics**



Data Quality

- **Qualified Data** (from OCRWM's Quality Assurance Requirements and Description)
 - Data acquired or developed under an approved QA program that meets the requirements of 10 CFR 63, Subpart G, (i.e., qualified from origin) or data that have undergone the qualification process.
- **Meeting OCRWM requirements for data quality**
 - Perform and document testing in accordance with approved QA procedures
 - Ensure that external vendors are on the YMP Qualified Supplier List
 - Identify all required QA records
 - Submit records packages to the YMP Records Processing Center
 - Submit data to the YMP Technical Data Management System

